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Application No. 10/658,089
Response dated December 15, 2006
Reply to Office Action of Sept 18, 2006

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CLAIM LISTING:

1. *(Original)* A prosthesis assembly to replace a cephalad portion of a left natural facet joint on a vertebral body and a cephalad portion of a right natural facet joint on a vertebral body, the prosthesis assembly comprising a left prosthesis body accommodating fixation to the vertebral body at or near a left pedicle and without support by a lamina, an artificial left facet joint structure carried by the left prosthesis body adapted and configured to replace a cephalad portion of the left natural facet joint, a right prosthesis body accommodating fixation to the vertebral body at or near a left pedicle and without support by a lamina, and an artificial right facet joint structure carried by the right prosthesis body adapted and configured to replace a cephalad portion of the right natural facet joint.
2. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is fixed to the respective one of the left and right prosthesis bodies.
3. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is fixed to the respective one of the left and right prosthesis bodies by an adhesive or cement.
4. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is fixed to the respective one of the left and right prosthesis bodies by mechanical attachment.
5. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is removably carried by the respective one of the left and right prosthesis bodies.
6. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is removably attached to the respective one of the left and right prosthesis bodies by frictional engagement.

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7. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is removably attached to the respective one of the left and right prosthesis bodies by a Morse taper.

8. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures comprises an insert fitted to the respective one of the left and right prosthesis bodies.

9. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures comprises an insert fitted by frictional engagement to the respective one of the left and right prosthesis bodies.

10. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures comprises an insert fitted by a Morse taper to the respective one of the left and right prosthesis bodies.

11. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial facet joint structures comprises a removable insert fitted to the respective one of the left and right prosthesis bodies.

12. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures pivots with respect to the respective one of the left and right prosthesis bodies.

13. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the prosthesis bodies includes a fastening element installed within the vertebral body at or near a pedicle.

14. *(Original)* A prosthesis assembly according to claim 13 wherein the fastening element includes a screw installed within the vertebral body at or near a pedicle.

15. *(Original)* A prosthesis assembly according to claim 13 wherein the fastening element includes a stem installed within the vertebral body at or near a pedicle.

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16. *(Original)* A prosthesis assembly according to claim 13 wherein the fastening element including means for resisting rotation after installation in the vertebral body.

17. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the prosthesis bodies is fixed to the vertebral body by an adhesive or cement.

18. *(Original)* A prosthesis assembly according to claim 1 wherein the prosthesis body includes a bony in-growth material.

19. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints.

20. *(Original)* A prosthesis assembly according to claim 1 wherein at least one or the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least some of a lamina from the vertebral body.

21. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least part of an accessory process from the vertebral body.

22. *(Original)* A prosthesis assembly according to claim 1 wherein at least one the artificial let and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least part of a transverse process from the vertebral body.

23. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least part of a pedicle from the vertebral body.

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24. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facets joint after removal of at least some of the natural articular process from the vertebral body.

25. *(Original)* A prosthesis assembly according to claim 1 wherein at least the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least some of the natural articular process and of at least some of a lamina from the vertebral body.

26. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least some of the natural articular process and of at least some of an accessory process from the vertebral body.

27. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least some of the natural articular process and of at least part of a transverse process from the vertebral body.

28. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints after removal of at least some of the natural articular process and of at least part of a pedicle from the vertebral body.

29. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet

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joints, and wherein at least one of the prosthesis bodies is adapted and configured to replace at least some of a lamina of the vertebral body.

30. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints, and wherein at least one of the prosthesis bodies is adapted and configured to replace at least some of a mamillary process of the vertebral body.

31. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the prosthesis bodies is adapted and configured to replace at least some of a lamina of the vertebral body.

32. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the prosthesis bodies is adapted and configured to replace at least some of a mamillary process of the vertebral body.

33. *(Original)* A prosthesis assembly according to claim 1 wherein a connecting member joins the left and right prosthesis bodies without support by a lamina.

34. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the left and right prosthesis bodies includes a fastening element installed within the vertebral body at or near a pedicle, and wherein the at least one left and right prosthesis body includes a caudal region that extends from the fastening element toward a cephalad portion of the respective one of the left and right natural facet joints.

35. *(Original)* A prosthesis according to claim 34 wherein the respective one of the artificial left and right facet joint structures is carried on the caudal region and is adapted and configured to replace a natural articular process of a cephalad portion of the respective one of the left and right natural facet joints.

36. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures is fixed to the caudal region.

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37. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures is fixed to the caudal region by an adhesive or cement.

38. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures is fixed to the caudal region by mechanical attachment.

39. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures is removably carried by the caudal region.

40. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures is removably attached to the caudal region by frictional engagement.

41. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures is removably attached to the caudal region by a Morse taper.

42. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures comprises an insert fitted to the caudal region.

43. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures comprises an insert fitted by frictional engagement to the caudal region.

44. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial left and right facet joint structures comprises an insert fitted by a Morse taper to the caudal region.

45. *(Original)* A prosthesis assembly according to claim 35 wherein the respective one of the artificial facet joint structures comprises a removable insert fitted to the caudal region.

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46. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures pivots with respect to the respective one of the left and right prosthesis bodies.

47. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is adapted and configured to articulate with a caudal portion of the respective one of the left and right facet joints of an adjoining vertebral body.

48. *(Original)* A prosthesis assembly according to claim 1 wherein at least one of the artificial left and right facet joint structures is made of at least one selected prosthetic material.

49. *(Presently amended)* A prosthesis assembly according to claim 1 wherein the selected prosthetic material includes polyethylene, rubber, tantalum, titanium, chrome cobalt, surgical steel, bony in-growth material, ceramic, or artificial bone, or ~~a~~any combination thereof.

50. *(Withdrawn)* A method of replacing, on a vertebral body, all or a portion of a cephalad portion of left natural facet joint and all or a portion of a cephalad portion of a right natural facet joint using the prosthesis assembly defined in claim 1 to provide improved support for the spinal column, the method comprising the steps of (i) removing all or a portion of the cephalad portions of the left and right natural facet joints from the vertebral body, and (ii) fixing the prosthesis assembly as defined in claim 1 to the vertebral body to replace both removed cephalad portions of the left and right natural facet joints with the artificial facet joint structure.

51. *(Withdrawn)* A method according to claim 50 further including a step of removing at least part of an accessory process from the vertebral body.

52. *(Withdrawn)* A method according to claim 50 further including a step of removing at least part of a transverse process from the vertebral body.

53. *(Withdrawn)* A method according to claim 50 further including a step of removing at least part of a pedicle from the vertebral body.